REMARKS

Applicant thanks the Examiner for total consideration given the present application. Claims 1-12 are currently pending in the present application. Claims 1, 2, 7, 11, and 12 are independent claims. The Examiner is respectfully requested to reconsider his rejection in view of the following Remarks.

Interview Summary

Applicant thanks the Examiner for granting a telephone interview with the Applicant's representative on February 20, 2007. During the interview, the Examiner agreed that alleged anticipation rejection based on Bond is deficient and agreed to withdraw this rejection upon filing a response. Particularly, the Examiner agreed that Bond fails to teach, *inter alia*, "searching provisionally an ensemble of the weights of the row and the column of the low-density parity-check code via optimization based on Gaussian approximation, using the set of the weights of the row as a fixed parameter", "searching an optimal ensemble", and "dividing at random the weights of the row and the column of the basic matrix after deleting the rows in a predetermined procedure based on a final ensemble" as recited in independent claim 1. Note that independent claims 2, 7, 11, and 12 also recite, *inter alia*, the above-identified claim features of claim 1. Indeed, the Examiner rejects claims 2, 7, 11, and 12 for the same reasons as claim 1 (see Office Action, page 5, paragraph 13, and page 7, paragraph 18). Thus, it is understood that the Examiner agreed that Bond fails to teach the above-identified claim features of independent claims 2, 7, 11, and 12. The Examiner did not agree to withdraw the alleged double-patenting rejections.

DRA/AMI/bms

Double Patenting

Claims 1, 2, 7, 11, and 12 stand rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 7,089,479. Applicant herewith files a Terminal Disclaimer, thereby rendering this rejection moot. Accordingly, Applicant respectfully requests withdrawal of the double patenting rejection of claims 1, 2, 7, 11, based on the '479 patent.

Claims 1, 2, 7, 11, and 12 stand provisionally rejected on the ground of non-statutory obviousness-type double patenting over claims 1-12 of copending Application Serial No. 10/520,061. Applicant herewith files a Terminal Disclaimer, thereby rendering this rejection moot. Accordingly, Applicant respectfully requests withdrawal of the double patenting rejection of claims 1, 2, 7, 11, and 12 based on copending Application No. 10/520,061.

35 U.S.C. § 102 Rejection- Bond

Claims 1-12 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Bond et al. publication titled, Low Density Parity Check Codes Based on Sparse Matrices with No Small Cycles, Cryptography and Coding, 1997, pages 46-58, (hereinafter "Bond"). Applicant respectfully traverses this rejection.

First, Applicant wishes to point out that for a Section 102 rejection to be proper, the cited reference must teach or suggest each and every claimed element. See M.P.E.P. 2131; M.P.E.P. 706.02. Thus, if the cited reference fails to teach or suggest one or more elements, then the rejection is improper and must be withdrawn.

As acknowledged by the Examiner during the telephone interview on February 20, 2007, Bond fails to teach or suggest each and every claimed element of independent claim 1. Particularly, the Examiner agreed that Bond fails to teach, *inter alia*, "searching provisionally an ensemble of the weights of the row and the column of the low-density parity-check code via optimization based on Gaussian approximation, using the set of the weights of the row as a fixed

DRA/AMI/bms

parameter", "searching an optimal ensemble", and "dividing at random the weights of the row and the column of the basic matrix after deleting the rows in a predetermined procedure based on a final ensemble" as recited in independent claim 1. As mentioned above, independent claims 2, 7, 11, and 12 also recite, *inter alia*, the above-identified claim features.

Bond merely discloses a method of systematic construction of matrices with constant row weights and column weights and arbitrarily large girths. Bond is particularly directed to algorithms for the construction of matrices whose bipartite graphs contain no 4 or 6-cycles and for the construction of matrices which requires the construction of regular matrices with half the required girth. The entire reference is silent on whether there are steps or structures for "searching provisionally an ensemble of the weights of the row and the column of the low-density parity-check code via optimization based on Gaussian approximation, using the set of the weights of the row as a fixed parameter", "searching an optimal ensemble", and "dividing at random the weights of the row and the column of the basic matrix after deleting the rows in a predetermined procedure based on a final ensemble" as recited in independent claims 1, 2, 7, 11, and 12.

Therefore, for at least these reasons, independent claims 1, 2, 7, 11 and 12 are distinguishable from Bond. Dependent claims 3-6 and 8-10 are distinguishable at least by virtue of their dependency on corresponding independent claims. Accordingly, Applicant respectfully requests that the rejection of claims 1-12, based on Bond, be withdrawn.

DRA/AMI/bms

CONCLUSION

Should the Examiner have any questions regarding this matter, she is respectfully requested to contact Ali M. Imam (Reg. No. 58,755), who may be reached in the Washington, DC, area at (703) 205-8000.

If necessary, the Commissioner is hereby authorized in this concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Dated: April 6, 2007   Respectfully submitted,

By _____ #58,755
D. Richard Anderson
Registration No.: 40,439
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant

5   DRA/AMI/bms